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FIELD CROP

GUIDE TO VARIETY AND PESTICIDE SELECTION

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FOR THE ATLANTIC PROVINCES

Prepared by the
ADVISORY COMMITTEES ON
CEREAL, PROTEIN, CORN
AND FORAGE CROPS.

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SERVICES CO-ORDINATING
COMMITTEE

For additional information regarding field crop production, refer to Publication 100, FIELD CROP GUIDE.

RECOMMENDED FORAGE CROP VARIETIES

LEGUMES

FLEMISH ALFALFA	Approximate* Flowering Date	Yield (% of Saranac)	Winter Hardiness	Reaction to** Verticillium wilt
Apica	June 15	102%	Very Good	S
Anchor	June 15	100	Good	S
Angus	June 15	100	Good	S
Citation	June 15	98	Good	S
Saranac	June 15	100	Good	S
Thor	June 15	100	Good	S
532	June 15	100	Good	S

AVERAGE YIELD OF SARANAC IN ATLANTIC TRIALS WAS 8.8 t/ha

STANDARD ALFALFA	Approximate* Flowering Date	Yield (% of Iroquois)	Winter Hardiness	Reaction to** Verticillium wilt
Algonquin	June 20	102	Very Good	S
Blazer	June 20	100	Good	S
Iroquois	June 20	100	Good	S
120	June 20	102	Good	S
Oneida VR	June 20	99	Good	R

AVERAGE YIELD OF IROQUOIS IN ATLANTIC TRIALS WAS 8.6 t/ha

RED CLOVER	Approximate* Flowering Date	Yield (% of Florex) 1st Cut	2nd Cut	Winter Hardiness
DOUBLE-CUT				
Marino	June 23	106	112	Very Good
Jubilatka	June 23	101	107	Good
Tapiopoly	June 23	92	106	Good
Tristan	June 23	84	97	Good
Prosper I	June 23	91	98	Good
Violetta R.V.P.	June 23	93	101	Good
Hungaropoly	June 23	92	104	Good
Arlington	June 25	90	99	Good
Lakeland	June 25	91	110	Good
Florex	June 27	100	100	Good
SINGLE-CUT				
Altaswede	July 20	116	—	Good

AVERAGE YIELD OF FLOREX IN ATLANTIC TRIALS WAS 4.4 t/ha FOR 1st CUT; AND 2.8 t/ha FOR 2nd CUT.

BIRDSFOOT TREFOIL	Approximate* Flowering Date	Regrowth	Winter Hardiness
Viking	June 20	Good	Good
Leo	June 25	Good	Very Good
Empire	July 2	Slow	Very Good
WHITE CLOVER(LADINO)			
Milkanova	June 26	Excellent	Very Good
Sacramento	June 26	Good	Good
Sonja	June 26	Excellent	Very Good

PERENNIAL GRASSES

TIMOTHY	Heading* Date	YIELD (% of Champ) 1st Cut	2nd Cut
Salvo	June 18	91	92
Clair	June 20	90	96
Toro	June 20	100	91
Basho	June 20	97	90
Richmond	June 23	100	93
Champ	June 25	100	100
Itasca	June 27	108	73
Timfor	June 27	112	85
Climax	June 29	116	74
Drummond	July 2	114	57
Farol	July 9	129	74

AVERAGE YIELD OF CHAMP IN ATLANTIC TRIALS WAS 5.5 t/ha FOR 1st CUT; AND 3.2 t/ha FOR 2nd CUT.

BROMEGRASS	Heading* Date	Regrowth	Tolerance to Variable Drainage
Saratoga	June 15	Good	Fair
Tempo	June 15	Good	Fair
ORCHARDGRASS			
Frode	June 12	Excellent	Poor
Kay	June 16	Excellent	Poor
MEADOW FESCUE			
Mimer	June 19	Good	Good
Trader	June 19	Good	Good
TALL FESCUE HYBRIDS			
Kenhy	June 17	Good	Good
Johnstone	June 17	Good	Good
REED CANARYGRASS			
Palaton*	June 13	Good	Excellent
Venture*	June 13	Good	Excellent
PERENNIAL RYEGRASS			
Gunne	July 2	Excellent	Very Good
Norlea	July 2	Good	Fair

*Low alkaloid varieties

*HEADING OR FLOWERING DATE MAY VARY WITHIN THE REGION AND FROM YEAR TO YEAR. OPTIMUM HARVEST DATE FOR QUALITY MAY BE EARLIER.

**S - DENOTES SUSCEPTIBLE VARIETY TO VERTICILLIUM WILT DISEASE

**R - DENOTES RESISTANT VARIETY TO VERTICILLIUM WILT (36 TO 50% RESISTANT PLANTS)

OTHER CROPS MAY BE USED FOR SUPPLEMENTARY FORAGE, SEE PUBLICATION 100.

ANNUAL FORAGES

ANNUAL RYEGRASS	Type	Yield[1] (% of Lemtal)	Use
Aubade	Tetraploid Westerwolds	119	Hay-Haylage-Pasture
Marshall	Diploid Westerwolds	120	Hay-Haylage-Pasture
Barspectra	Tetraploid Westerwolds	111	Haylage-Pasture
Promenade	Tetraploid Westerwolds	104	Haylage-Pasture
Maris Ledger	Tetraploid Italian	104	Pasture
Lemtal	Diploid Italian	100	Pasture
Bartolini	Diploid Italian	99	Pasture
Barmultra	Tetraploid Italian	97	Pasture

AVERAGE YIELD OF LEMTAL IN ATLANTIC TRIALS WAS 8.7 t/ha.

FORAGE KALE	Height (cm)	Yield (% of Maris Kestrel)	Frost Hardiness
Grüner Angeliter	120	112	Good
Maris Kestrel	80	100	Very Good
FORAGE RAPE			
Barcoli	70	72	Fair

AVERAGE YIELD OF MARIS KESTREL IN ATLANTIC TRIALS WAS 9.5 t/ha.

HERBICIDE TREATMENT/TIMING The herbicides below are listed by chemical name, example trade names are provided.	WEEDS[1]																						
	Bedstraw (P)	Buttercup (P)	Campion, bladder (P)	Chickweed (A)	Cockle, white (P)	Daisy, ox-eye (P)	Dandelion (P)	Goldenrod (P)	Hempnettle (A)	Lady's Thumb (A)	Lambs-quarters (A)	Mayweed (A)	Mustards (A)	Pigweed (A)	Pineappleweed (A)	Plantains (P)	Ragwort (B)	Rocket, yellow (B)	Shepards purse (WA)	Spurry, Corn (A)	St. John's-Wort (P)	Thistle, Canada (P)	Annual Grasses (A)
PREPLANT APPLICATION																							
Glyposfate (Round-up) Fall Applications are best	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
EPTC (Eptam) Alfalfa or trefoil purestands only				•							•			•						•			•
Trifluralin (Treflan or Rival) Alfalfa purestands only plus Kale, Rape and Turnips				•							•			•									•
NEWLY SEEDED LEGUMES AND LEGUME/GRASS MIXTURES (*See footnote)																							
2, 4-DB (Embutox 625, Cobutox)							•	•		•	•			•		•		•					
2, 4-DB + MCPA (Alfalfa damage may occur)		•					•	•		•	•		•	•		•		•	•			•	
MCPB/MCPA (Tropotox Plus)		•					•	•			•		•	•		•			•			•	
NEWLY SEEDED AND ESTABLISHED GRASS STANDS																							
2,4-D						•	•	•		•	•		•	•		•	•	•	•			•	
MCPA		•				•	•		•	•	•		•	•		•		•	•	•		•	
Dicamba (Banvel)				•	•	•	•		•	•	•	•		•	•	•	•			•		•	

*For herbicide options on established legume stands please consult Publication 75, Guide to Weed Control.

NOTE: Herbicides are only one method of weed control. For assistance in planning a weed control program consult Publication 100, **Field Crop Guide** and Publication 75, **Guide to Weed Control**.

NOTE: For further information on rates of application of these and other herbicides consult Pub. 75.

[1]PLANT CLASSIFICATION

(A) Annual
(WA) Winter Annual
(B) Biennial
(P) Perennial

HERBICIDE RESPONSE

Response in many cases is affected by growth stage of the weed. READ THE LABEL

Keep Herbicides in Original Containers and READ THE LABEL

RECOMMENDED CEREAL VARIETIES 1991

	Recommendation Status*	Yield Potential TREATMENT** I	II	III	IV	Grain Use (3)	Maturity (4)
2-ROW BARLEY		***100 = 4.9 tonnes/ha					(days from planting)
ALBANY	FR	103	106	120	122	feed	96
HELENA	PR	99	103	119	112	feed	95
MICMAC	FR	99	101	114	118	feed	95
MORRISON	PR	104	107	119	121	feed	96
RODEO	FR	99	99	114	112	feed	96
6-ROW BARLEY		***100 = 5.1 tonnes/ha					
CADETTE	FR	96	96	113	112	feed	99
CHAPAIS	PR	104	110	120	127	feed	95
DUKE	PR	102	111	115	118	feed	97
ETIENNE	PR	98	104	110	117	feed	97
LEGER	FR	98	103	104	115	feed	96
OATS		***100 = 3.7 tonnes/ha					
BALDWIN	PR	104	–	–	–	feed	105
CAPITAL	PR	102	–	–	–	feed	104
MARION	FR	105	–	–	–	feed	100
NOVA	FR	107	–	–	–	feed	103
SENTINEL	FR	95	–	–	–	feed	105
SHAW	FR	101	–	–	–	feed	103
TIBOR	FR	71	–	–	–	feed	105
SPRING TRITICALE		***100 = 3.9 tonnes/ha					
BEAGUELITA	FR	100	–	–	–	feed	114
SPRING WHEAT		*** 100 = 3.6 tonnes/ha					
BELVEDERE	FR	108	118	136	144	feed	110
KATEPWA(1)	FR	80	83	96	96	milling	108
MAX	PR	100	105	119	123	milling	112
WINTER WHEAT		***100 = 4.3 tonnes/ha					(days from May 31)
ABSOLVENT	FR	91	97	125	127	milling	65
BORDEN	FR	117	122	141	156	feed	65
KARAT	PR	99	109	136	140	milling	65
MONOPOL	OC	91	92	128	120	milling	69
PERLO	PR	101	110	140	130	milling	65
WINTER RYE		***100 = 5.1 tonnes/ha					
DANKO	FR	108	–	–	–	feed	77
KODIAK	FR	92	–	–	–	feed	79
WINTER TRITICALE		***100 = 5.3 tonnes/ha					
DECADE	OC	95	–	–	–	feed	67
OAC TRILLIUM	FR	105	–	–	–	feed	69

***Recommendation Status**

PR-Provisional Recommendation:
new variety that shows strong yield/ agronomic traits.

FR-Full Recommendation:
top classification, variety that has performed well under extensive testing and meets performance criteria.

OC-Out Classed:
variety that is now being outperformed by newer ones and that lacks significant commercial interest. It will be dropped from 1992 list.

****Treatment**

I Standard Nitrogen
II Extra Nitrogen
III Extra Nitrogen + Foliar Fungicide
IV Extra Nitrogen + Foliar Fungicide + Growth Regulator

***The actual yield is an average of many sites and years under management level I. It may not reflect the performance for your farm.

For further information please consult with your local Agricultural Representative or Crop Specialist.

(Please see Zadoks Growth Scale For Cereals on Pg. 12)

Hull %	Awns(5)	Lodging (6) Susceptibility (0-9)	Disease Susceptibility (7)						Winter Survival (8) %	Winter Survival (9) %
			Powdery Mildew	Fusarium Head Blight	Vomitoxin	Septoria (0-9)	Scald	Net/Spot Blotch		
–	Rough	4	1	2	2	1	5	7	–	–
–	Rough	3	1	2	2	1	5	7	–	–
–	Rough	5	1	2	2	1	5	7	–	–
–	Rough	5	1	•	•	1	5	6	–	–
–	Rough	3	1	2	2	1	5	7	–	–
–	Smooth	2	4	2	2	1	7	6	–	–
–	Rough	4	3	2	2	1	6	6	–	–
–	Rough	2	•	•	•	1	5	5	–	–
–	Smooth	3	3	•	•	1	6	5	–	–
–	Smooth	4	3	3	1	1	6	5	–	–
25	–	5	0	3	1	6	0	0	–	–
25	–	4	0	2	1	6	0	0	–	–
24	–	5	0	3	1	4	0	0	–	–
24	–	4	0	3	1	6	0	0	–	–
28	–	3	0	1	1	3	0	0	–	–
24	–	3	0	2	1	6	0	0	–	–
3	–	3	0	5	1	6	0	0	–	–
–	Rough	2	2	7	8	3	0	0	–	–
–	Rough	2	2	4	5	6	0	0	–	–
–	–	3	7	3	2	6	0	0	–	–
–	–	2	5	6	5	6	0	0	–	–
–	–	3	7	3	•	5	0	0	86	95
–	–	5	5	3	•	5	0	0	92	98
–	Smooth	3	5	•	•	5	0	0	74	89
–	–	2	6	3	•	5	0	0	84	96
–	Smooth	3	5	3	•	5	0	0	71	89
–	Rough	4	1	2	•	1	2	0	90	•
–	Rough	5	1	2	•	1	2	0	96	•
–	–	3	1	3	•	1	0	0	80	•
–	–	3	1	3	•	1	0	0	85	•

(1) Recommended for P.E.I. & N.B. only
(2) Seed supply limited
(3) Feed = Feed Quality; Milling = Milling Quality
(4) Maturity based on the average of the region
(5) R= Rough Awned S= Smooth Awned
(6) Loding 0 = None 9 = Fully Lodged
(7) Disease 0 = Immune 9 = Highly Susceptible
(8) Winter Survival for Atlantic Region excluding Annapolis Valley
(9) Winter Survival for Annapolis Valley
(•) Information Presently Unavailable
(–) Not Applicable

HERBICIDE SELECTION FOR SPECIFIC WEEDS IN CEREALS NOT UNDERSEEDED

HERBICIDES	Annual Broad Leaves										Annual Grasses					Perennials			
	chickweed	corn spurry	lady's-thumb	lamb's-quarters	mustards	mayweed	pigweeds	ragweed	buckwheat, wild	hempnettle	barnyard grass	foxtail, green	foxtail, yellow	old witch grass	wild oats	bindweed, field	sow-thistle	thistle, Canada	quackgrass
AFTER HARVEST																			
Amitrole (AMITROL-T, CYTROL)																•	•	•	
Glyphosate (ROUNDUP)																•	•	•	
Glyphosate - Frigate (ROUNDUP - FRIGATE)																		•	
Glyphosate - Enhance (ROUNDUP - ENHANCE)																		•	
Dalapon (DOWPON-M, BASFAPON)																		•	
PREPLANT																			
Glyphosate (ROUNDUP)																•	•	•	
Glyphosate - Frigate (ROUNDUP - FRIGATE)																		•	
Glyphosate - Enhance (ROUNDUP - ENHANCE)																		•	
OATS, SPRING WHEAT, BARLEY AND WINTER WHEAT (SPRING APPLICATION ONLY)																			
2,4-D amine				•	•		•	•											
MCPA				•	•		•	•		•									
[1] 2,4-DB (EMBUTOX 625, COBUTOX)				•			•	•	•								•	•	
[1] MCPB/MCPA (TROPOTOX PLUS)				•	•		•	•		•									
Thifensulfuron (REFINE)	•	•	•	•	•	•	•	•	•	•									
Dicamba (BANVEL)	•	•	•	•		•	•	•	•							•	•	•	
2,4-D/Mecoprop/Dicamba (KIL-MOR)		•	•	•	•				•							•	•	•	
MCPA/Mecoprop/Dicamba (TARGET)	•	•	•	•	•	•	•	•	•	•						•	•	•	
Dicamba/MCPA (DYVEL)	•	•	•	•	•	•	•	•	•	•						•	•	•	
Bromoxynil (PARDNER)			•	•		•	•	•	•										
Bromoxynil/MCPA (1:1) (BUCTRIL M)			•	•	•	•	•	•	•										
[2] Cyanazine/MCPA (BLAGAL)	•	•	•	•	•		•	•	•	•									
[2] Propanil/MCPA (STAMPEDE CM)			•	•	•		•	•	•			•	•						
[2] Mecoprop (COMPITOX)	•			•															
WHEAT AND BARLEY																			
Difenzoquat (AVENGE 200C)															•				
Diclofop-methyl (HOE-GRASS)											•	•	•	•	•				
Dichloroprop/2,4-D (ESTAPROP, DIPHENOPROP)			•	•	•		•	•	•										
WHEAT																			
Flamprop-menthyl (MATAVEN)															•				
WINTER WHEAT-FALL APPLICATION																			
Bromoxynil (PARDNER)			•	•		•	•	•											
Bromoxynil/MCPA (BUCTRIL-M)			•	•	•	•	•	•											

[1]Recommended Application on Underseedings of Alfalfa/Clover only.
[2]Not registered for Winter Wheat spring application.
For more details regarding weed control, refer to Publication 75, GUIDE TO WEED CONTROL. Chemical names, as well as an example of specific trade names are given. Products may be available under other trade names.

CEREAL INSECT CONTROL

APHIDS	ARMYWORMS
DIMETHOATE (CYGON OR ROGOR) MALATHION Temperatures of about 21°C result in best aphid control. Apply before crop heads, or aphids have developed wings.	CARBARYL (SEVIN XR PLUS) CHLORPYRIFOS (LORSBAN) MALATHION METHOXYCLOR TRICHLORFON (DYLOX) (Do not apply with in 21 days of harvest) Apply in sufficient water to wet foliage thoroughly.

FOR ADDITIONAL INFORMATION ON INSECTS, SEE PUBLICATION 116, DISEASES AND INSECT PESTS OF CEREALS IN THE ATLANTIC PROVINCES.

CEREAL & SOYBEAN SEED TREATMENTS

COMMON NAME	PRODUCT NAME	FORMULATION	OATS -covered smut	OATS -loose smut	OATS -seedling blight•	OATS -root rot	BARLEY -loose smut	BARLEY -seedling blight•	BARLEY -root rot	WHEAT -loose smut	WHEAT -seedling blight•	WHEAT -root rot	RYE -seedling blight•	RYE -root rot	ALL CEREALS -wireworms	SOYBEAN -seedling blight•
MANEB	AGROX NM AGROX FLOWABLE	P-DB, Su, WP	+	+	+	+			+	+		+	+	+		
CARBATHIIN + THIRAM	VITAFLO 280	Su	+	+	+	*		+	+	*		+	+	*	+		+
	VITAVAX POWDER	P-DB														
	ANCHOR	Su														
SEED TREATMENTS WITH INSECTICIDES																
MANEB + LINDANE	MERGAMMA NM	P-DB, Su	+	+	+	+			+	+			+	+		
	CO-OP NN DUAL PURPOSE															
CARATHIIN + THIRAM + LINDANE	VITAVAX DUAL PURPOSE	P-DB,L	+	+	+	*		+	+	*		+	+	*	+	

P-DB (Powder Drillbox); L (Liquid); Su (Suspension); WP (Wettable Powder) + Most reliable treatment, *Partial Control

• Seeding blight may be caused by several seed and soil borne organisms, including Fusarium.

CEREAL FOLIAR FUNGICIDES
(CHECK REGISTRATION STATUS ON LABEL)

COMMON NAME	PRODUCT NAME	FORMULATION*	W WHEAT Powdery Mildew[2]	W WHEAT Septoria[3]	W WHEAT rusts	SP WHEAT Powdery Mildew[2]	SP WHEAT Septoria[3]	BARLEY Net blotch	BARLEY Spot blotch	BARLEY scald	Pre-Harvest Interval Days
MANCOZEB	DITHANE M-45	WP	—	+	—		—	+	NR[4]		40
PROPICONAZOLE	TILT	Su	—	+	+		+	+	+	+	45
TRIADIMEFON	BAYLETON	WP	+	—	+	NR[4]		NR[4]			60

*WP - wettable powder, Su - Solution

Bayleton - 4 weeks control, Tilt 2 weeks control

[3]Tilt - 4 weeks control, Dithane M-45 2 weeks control

[4]NR - Not registered for this crop in 1988

+ Denotes effective control

— Non-effective control

Warning: Safety data and registration of these products are under review. Directions for use and cautionary statements should be carefully followed. Read the label before using.

*CEREAL ANTILODGING COMPOUNDS

COMMON NAME	PRODUCT NAME	CROP
CHLORMEQUAT CHLORIDE	CYCOCEL EXTRA	Registered for Absolvent, Lennox, Monopol, Norstar and Vuka Winter Wheat
ETHEPHON	CERONE	Registered for all registered Wheat and Barley varieties - except Birka

***Antilodging Agents** should be used only when risk of lodging is high. Time of application is critical. Do not apply when crop is under stress due to cold or lack of moisture.

SOYBEAN VARIETIES

Zone(1)	Variety	Days to Maturity (3)	Yield (% mean) *100 = 2.4 t/ha	Metribuzin Tolerance (4)	Hilium Color
3	Maple Presto	112	78	T	Brown
3	Maple Ridge	115	87	S	Yellow
2	Baron	119	101	S	Brown
2	Maple Amber	122	99	S	Brown
2	KG20	123	103	T	Yellow
2	Maple Isle(2)	129	105	T	Yellow
1	McCall	129	101	T	Yellow
1	Maple Arrow	131	105	T	Brown
1	KG30	133	111	T	Brown
1	Bicentennial	135	106	T	Brown
1	Maple Glen	135	108	T	Yellow

(1) Refer to Zones for corn production on page 11

(2) More sensitive to cool spring soil conditions

(3) Regional Short Season Soybean Co-Op Trial: Maritimes Region (88-89)

(4) T - Tolerant S - Susceptible

*The actual yield is an average of many sites and years.

It may not reflect the performance for your farm.

For further information please consult with your local Agricultural Representative.

SOYBEAN HERBICIDE WEED CONTROL RATINGS

This chart is intended to help in the selection of a herbicide to control specific weeds in soybeans. For complete information on rates and details of application, refer to the current GUIDE TO WEED CONTROL, Publication 75.

The chemical ratings in this chart give general comparisons for use as described in the GUIDE. Under unfavourable conditions (e.g. too dry, too wet, too cold or poor application) the herbicides may not be as effective as indicated.

RATING:
E - Excellent
G - Good
F - Fair
P - Poor

ppi - preplant incorporated
pre - pre-emergence
post - postemergence

TREATMENT	TRADE NAME	METHOD OF APPLICATION	ANNUAL BROADLEAVES: buckwheat, wild	chickweed	corn spurry	hempnettle	lady's-thumb	lamb's-quarters	mayweed	mustards	pigweeds	ragweed	ANNUAL GRASSES: barnyard grass	foxtails	old witch grass	wild oats	PERENNIALS: bindweed, field	horsetail	quackgrass	sow-thistle	thistle, Canada	CROP TOLERANCE
Amitrole T	Amitrol-T,Cytrol	preplant	•	•	•	•	•	•	—	•	•	•	•	•	•	•	•	•	G	•	•	G
Glyphosate	Roundup	preplant	•	•	•	•	•	•	—	•	•	•	•	•	•	•	2	•	E	2	2	G
Glyphosate	Roundup	spot treat or	•	•	•	•	•	•	—	•	•	•	•	•	•	•	E	P	E	E	E	P
		after harvest	•	•	•	•	•	•	—	•	•	•	•	•	•	•	P	•	•	•	G	P
Glyphosate + Frigate	Roundup + Frigate	spot treat or	•	•	•	•	•	•	—	•	•	•	•	•	•	•	G	P	E	E	E	P
		after harvest	•	•	•	•	•	•	—	•	•	•	•	•	•	•	P	•	G	•	G	P
Glyphosate + Enhance	Roundup + Enhance	preplant or after harvest	•	•	•	•	•	•	—	•	•	•	•	•	•	•	—	—	G	—	—	—
Metolachlor	Dual	ppi	P	P	P	P	P	P	P	P	P	P	E	E	E	—	P	P	P	P	P	G
Trifluralin	Treflan, Rival	ppi	F	P	F	P	F	G	—	P	G	P	E	E	E	G	P	P	P	P	P	G
Metolachlor + metribuzin	Dual plus Lexone or Sencor	ppi	G	G	G	G	E	E	G	E	E	E	E	E	E	—	P	P	P	P	P	G
Trifluralin + chloramben	Treflan + Amiben	ppi	E	F	F	P	E	E	—	P	E	G	E	E	E	G	P	P	P	P	P	G
Trifluralin + metribuzin	Treflan or Rival + Sencor or Lexone	ppi	E	G	E	G	E	E	G	E	E	G	E	E	E	G	P	P	P	P	F	G
Ethafluralin	Edge	ppi	E	—	—	—	F	G	—	P	G	P	E	E	E	—	F	P	P	P	P	G
Ethafluralin + metribuzin	Edge + Lexone or Sencor	ppi	E	—	—	—	E	E	—	E	E	E	E	E	E	—	F	P	P	P	P	G
Chloramben	Amiben	pre	E	F	P	P	E	E	—	P	E	G	G	G	G	P	P	P	P	P	P	E
Chloramben + linuron	Amiben + Afolan, Lorox	pre	E	G	G	P	E	E	—	G	E	G	G	G	G	P	P	P	P	P	P	E
Imazethapyr	Pursuit	pre	—	E	E	—	E	G	—	E	E	G	G	E	E	—	P	P	P	P	P	E
Linuron (a)	Afolan, Lorox	pre	E	F	E	P	E	E	P	E	E	G	F	F	F	P	P	P	P	P	P	G
Monolinuron	Afesin	pre	E	—	F	—	E	E	—	E	E	G	F	F	F	P	P	P	P	P	P	G
Metobromuron	Patoran	pre	E	—	G	F	E	E	—	E	E	G	F	F	P	P	P	P	P	P	P	G
Metribuzin (b)	Lexone, Sencor	pre	G	G	E	G	E	E	G	E	E	E	G	G	G	G	P	P	P	P	P	G
Metolachlor	Dual	pre	P	P	P	P	P	P	P	P	P	P	E	E	E	—	P	P	P	P	P	G
Metolachlor plus one of (Tank mix) 5 treatments below	Dual	pre																				
Chloramben	Amiben	pre	E	—	G	P	E	E	—	P	E	G	E	E	E	—	P	P	P	P	P	G
Linuron	Afalon, Lorox	pre	E	—	E	P	E	E	P	E	E	G	E	E	E	—	P	P	P	P	P	G
Metobromuron	Patoran (Galex)	pre	E	—	G	F	E	E	—	E	E	G	E	E	E	—	P	P	P	P	P	G
Metribuzin	Lezone, Sencor	pre	G	G	E	G	E	E	G	E	E	E	E	E	E	G	P	P	P	P	P	G
Monolinuron	Afesin	pre	E	—	F	—	E	E	—	E	E	G	E	E	E	—	P	P	P	P	P	G
Bentazon	Basagran	post	F	—	P	P	E	G	—	E	G	E	P	P	P	P	G	P	P	G	G	G
Bentazon + Fenoxaprop-ethyl	Basagran + Excel	post	F	—	P	P	E	G	—	E	G	E	E	E	E	E	G	P	P	G	G	G
Fenoxaprop-ethyl	Excel	post	P	P	P	P	P	P	P	P	P	P	E	E	E	E	P	P	P	P	P	G
Diclofop-methyl	Hoe-Grass	post	P	P	P	P	P	P	P	P	P	P	E	E	E	E	P	P	P	P	P	G
Imazethapyr	Pursuit	post	F	E	E	F	G	F	P	E	E	G	G	E	E	—	P	P	P	P	P	E
Sethoxydim	Poast	post	P	P	P	P	P	P	P	P	P	P	E	E	E	E	P	P	G	P	P	E
Fluazifop-butyl	Fusilade	post	P	P	P	P	P	P	P	P	P	P	E	E	E	E	P	P	E	P	P	E

(*)Indicates the annual weeds will be controlled if emerged, and the perennials can be controlled if treated at the optimum time which is usually not the same time as for quack grass. (—) indicates lack of data.

1 Good control of these perennial weeds may require two applications of BENTAZON + ASSIST oil concentrate about 7 to 10 days apart.

2 Optimum growth stages for best control of these weeds will not likely be attained prior to planting soybeans. See further details on label.

(a) On soils of less than 2.5% O.M. and when the varieties recommended in this Guide are grown, use the lowest recommended rate of linuron.

(b) Do not use metribuzin on Maple Amber, Maple Ridge, or Baron varieties. If soil O.M. is lower than 2.5%, all varieties recommended in this Guide may also be injured.

CORN HERBICIDE WEED CONTROL RATINGS

Herbicides are not the only method of weed control. Field and machinery sanitation, crop rotations, cultivation, and clipping should be considered in a weed control program. See Publication 100, FIELD CROP GUIDE for assistance in planning a weed control program.

This chart is intended to help in the selection of a herbicide to control specific weeds in corn. For complete information on rates and details of application, refer to the current GUIDE TO WEED CONTROL, Publication 75.

The chemical ratings in this chart give general comparisons for use as described in the guide. Under unfavourable conditions (e.g. too dry, too wet, too cold or poor application) the herbicides may not be as effective as indicated.

RATING:
E – excellent
G – good
F – fair
P – poor

TREATMENT[2]	Method[1] of Application	ANNUAL BROADLEAVES									ANNUAL GRASSES						PERENNIALS						
		buckwheat, wild	corn spurry	lady's-thumb	lamb's-quarters	mustards	pigweeds	ragweeds	triazine resistant	velvetleaf	barnyard grass	crabgrass	fall panicum	foxtail	old witch grass	proso millet	bindweed, field	horsetail	nutsedge	quack grass	sow-thistle	thistle, Canada	CORN TOLERANCE
Glyphosate (Roundup)	preplant	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	P	*	E	*	*	E
Atrazine + atrazine[4]	preplant + pre or ppi	E	E	E	E	E	E	E	P	F	E	F	F	E	E	P	F	F	F	E	G	G	E
Atrazine/simazine (EKKO)	ppi	E	E	E	E	E	E	E	P	F	E	F	F	E	E	P	P	P	F	F	P	P	E
Butylate + (Sutan +)	ppi	P	G	P	F	P	F	F	P	P	E	E	G	E	E	F	P	P	G	P	P	P	E
Butylate plus + /atrazine (Sutazine)	ppi	E	E	E	E	E	G	G	P	G	E	E	G	E	E	F	P	P	G	F	P	P	E
Butylate plus + cyanazine (Bladex)	ppi	-	-	-	E	E	F	E	P	F	E	E	G	E	E	F	P	P	G	P	P	P	E
Cyanazine/atrazine (Blazine)	ppi	E	E	E	E	E	E	E	P	F	G	E	G	E	E	P	P	P	P	P	P	P	E
EPTC plus (Eradicane)	ppi	P	G	F	G	P	F	F	P	P	E	E	G	E	E	F	F	P	G	P	P	P	E
EPTC plus + atrazine	ppi	E	E	E	E	E	G	G	P	P	E	E	G	E	E	F	P	F	G	F	P	P	E
Metolachlor (Dual)	ppi	P	P	P	P	P	P	P	P	P	E	E	G	E	E	P	P	P	G	P	P	P	E
Metolachlor + /atrazine (Primextra)	ppi	E	E	E	E	E	E	E	P	F	E	E	G	E	E	P	P	P	G	P	P	P	E
Metolachlor + cyanazine	ppi	E	-	E	E	E	G	E	P	F	E	E	G	E	E	P	P	P	G	P	P	P	E
Simazine[3]	ppi	E	E	E	E	E	E	E	P	F	E	E	F	E	E	P	P	P	F	F	P	P	E
Atrazine[4]	pre	E	E	E	E	E	E	E	P	F	G	P	P	G	G	P	P	P	P	F	P	P	E
Atrazine + /dicamba (Marksman)	pre	E	E	E	E	E	E	E	E	G	G	P	P	G	G	P	P	P	P	F	P	P	E
Atrazine/simazine (EKKO)	pre	E	E	E	E	E	E	E	P	F	E	F	F	E	E	P	P	P	F	F	P	P	E
Cyanazine (Bladex)	pre	G	-	G	E	E	F	E	P	F	F	E	G	E	E	P	P	P	P	P	P	P	E
Cyanazine + /atrazine (Blazine)	pre	E	E	E	E	E	E	E	P	F	G	E	G	E	E	P	P	P	P	P	P	P	E
Cyanazine + dicamba	pre	G	E	E	E	E	E	E	E	G	F	E	G	E	E	P	P	P	P	P	P	P	E
Linuron + atrazine	pre	E	-	E	E	E	E	E	F	F	F	F	F	F	P	P	P	P	P	P	P	P	G
Metolachlor (Dual)	pre	P	P	P	P	P	P	P	P	P	E	E	G	E	E	P	P	P	P	P	P	P	E
Metolachlor + /atrazine (Primextra)	pre	E	E	E	E	E	E	E	P	F	E	E	G	E	E	P	P	P	P	P	P	P	E
Metolachlor + cyanazine	pre	E	-	E	E	E	G	E	P	F	E	E	G	E	E	P	P	P	P	P	P	P	E
Metolachlor + dicamba	pre	G	G	E	E	E	E	E	E	G	E	E	G	E	E	P	P	P	P	P	P	P	E
Metolachlor + atrazine + dicamba	pre	E	E	E	E	E	E	E	E	G	E	E	G	E	E	P	P	P	P	P	P	P	E
Simazine[3]	pre	E	E	E	E	E	E	E	P	F	E	E	F	E	E	P	P	P	F	F	P	P	E
Atrazine[4]	post	E	E	E	E	E	E	E	P	F	G	P	P	F	G	P	P	P	F	F	F	P	E
Atrazine + dicamba	post	E	E	E	E	E	E	E	E	E	G	P	P	F	G	P	G	P	F	F	E	G	E
Atrazine + oil	post	E	E	E	E	E	E	E	P	F	E	P	P	G	G	P	F	F	F	F	F	P	G
Atrazine/simazine + oil (EKKO)	post	E	E	E	E	E	E	E	P	G	E	F	F	E	E	P	P	F	F	F	F	F	G
Bentazon (Basagran)	post	F	-	E	G	E	G	E	E	E	P	P	P	P	P	P	G[3]	P	G[3]	P	G[3]	G[3]	E
Bentazon/atrazine (Laddock)	post	E	E	E	E	E	E	E	E	E	G	P	P	F	G	P	F	P	G[3]	P	F	F	E
Pyridate (Lentagran) + atrazine	post	F	-	F	E	E	E	E	E	G	F	F	F	F	-	-	P	P	-	-	-	P	E
Bromoxynil[4]	post	E	-	E	E	G	G	E	E	E	P	P	P	P	P	P	F	P	P	P	F	F	E
Bromoxynil/MCPA[4]	post	E	-	E	E	E	G	E	E	E	P	P	P	P	P	P	F	F	P	P	F	F	G
Bromoxynil + atrazine	post	E	E	E	E	E	E	E	E	E	G	P	P	G	G	P	F	P	P	P	F	F	E
Bromoxynil/MCPA + atrazine	post	E	E	E	E	E	E	E	E	E	G	P	P	G	G	P	F	F	F	F	F	F	G
Cyanazine (Bladex)	post	G	-	G	E	E	F	E	P	G	F	E	G	E	E	P	P	P	P	P	P	P	G
Cyanazine + atrazine	post	E	E	E	E	E	E	E	P	G	G	E	G	E	E	P	P	P	P	P	P	P	G
Cyanazine + dicamba	post	E	E	E	E	E	E	E	E	E	F	E	G	E	E	P	F	P	P	P	E	F	G
2,4-D[5]	post	F	P	F	E	E	E	E	G	E	P	P	P	P	P	P	F	P	P	P	G	G	G
2,4-DB, or MCPB/MCPA	post	G	P	P	F	G	E	E	E	E	P	P	P	P	P	P	G	P	P	P	G	G	G
Dicamba (Banvel)	post	E	E	E	E	F	E	E	E	E	P	P	P	P	P	P	G	P	P	P	E	G	E
2,4-D + mecoprop + dicamba (Kilmor)	post	E	E	E	E	E	E	E	E	E	P	P	P	P	P	P	G	P	P	P	E	G	G
Linuron[4]	directed post	E	E	E	E	E	E	E	E	E	E	F	E	G	E	G	F	G	G	F	G	F	G
MCPA (amine)[4]	post	-	F	P	E	E	F	E	E	F	P	P	P	P	P	P	F	G	P	P	F	F	G

1 Preplant = apply to emerged perennials before working field; ppi = preplant incorporated; pre = preemergence; post = postemergence.

2 * indicates the annual weeds that will be controlled if emerged, and the perennials that can be controlled if treated at the optimum time which is usually not the same time as for quack grass.

3 Good control of these perennials may require two applications of BENTAZON + CITOWETT PLUS about 7 to 10 days apart.

4 Sold under various tradenames – See Pub. 75 (Guide to Weed Control) for more information.

5 + /denotes products can be tanked mixed or available as commercial pre-mix formulations.

RECOMMENDED CORN HYBRIDS

GRAIN PRODUCTION

Hybrids with an* are NEW recommendations for this year.

Zone	Hybrid (Ident.)	Canadian Supplier[1]	Type of Hybrid[2]	Total Years X Sites Tested	Stalk Breakage (%)	Emerge.[3] Rate (%)	Grain[4] Moisture Content (%)	Yield[4] at 15.5% Moisture (t/ha)
All Hybrids Suitable for Zone 1								
Zone 3	G-4017 (Funk)	2	3W	20	15	92	27.1	5.9
Zone 2	K610 (Pride)	8	3W	39	13	93	29.1	5.5
	Co-op 2335	3	SC	20	24	87	29.8	5.6
	Co-op 2325	3	SC	25	11	86	30.2	6.2
	DK-235 (Dekalb)	4	OC	20	14	91	30.3	6.0
	3979 (Pioneer)	7	SC	20	12	93	31.4	6.3
	Co-op 6312	3	3W	17	20	90	31.6	5.8
	Pickseed 2477	6	3W	20	11	92	31.7	5.8
	3954 (Pioneer)	7	SC	11	14	90	33.9	6.4
	Hyland HL2219	5	SC	39	13	81	36.0	6.4
	T778 (Dekalb)	4	OC	39	13	88	36.8	6.2

1 Refer to table of suppliers for complete names and addresses.
2 SC = single cross; 3W = 3 way cross; OC = other cross.
3 Emergence rate was determined at the 5 leaf stage, PRIOR TO THINNING to a constant plant stand in each plot. Data are averages of the last 5 years only.
4 Data are averages for all Atlantic trials over at least 2 years, with up to a 6 trial-locations per year. The table values (above) indicate a hybrid's performance when grown in **Zone 2**. To estimate a hybrid's performance in **Zone 1**, add 1.0 t/ha to the yield, and subtract 3.9% from the at-harvest grain moisture content above. For Performance in **Zone 3**, subtract 0.4 t/ha from the yield and add 4.4% to the at-harvest grain moisture content.

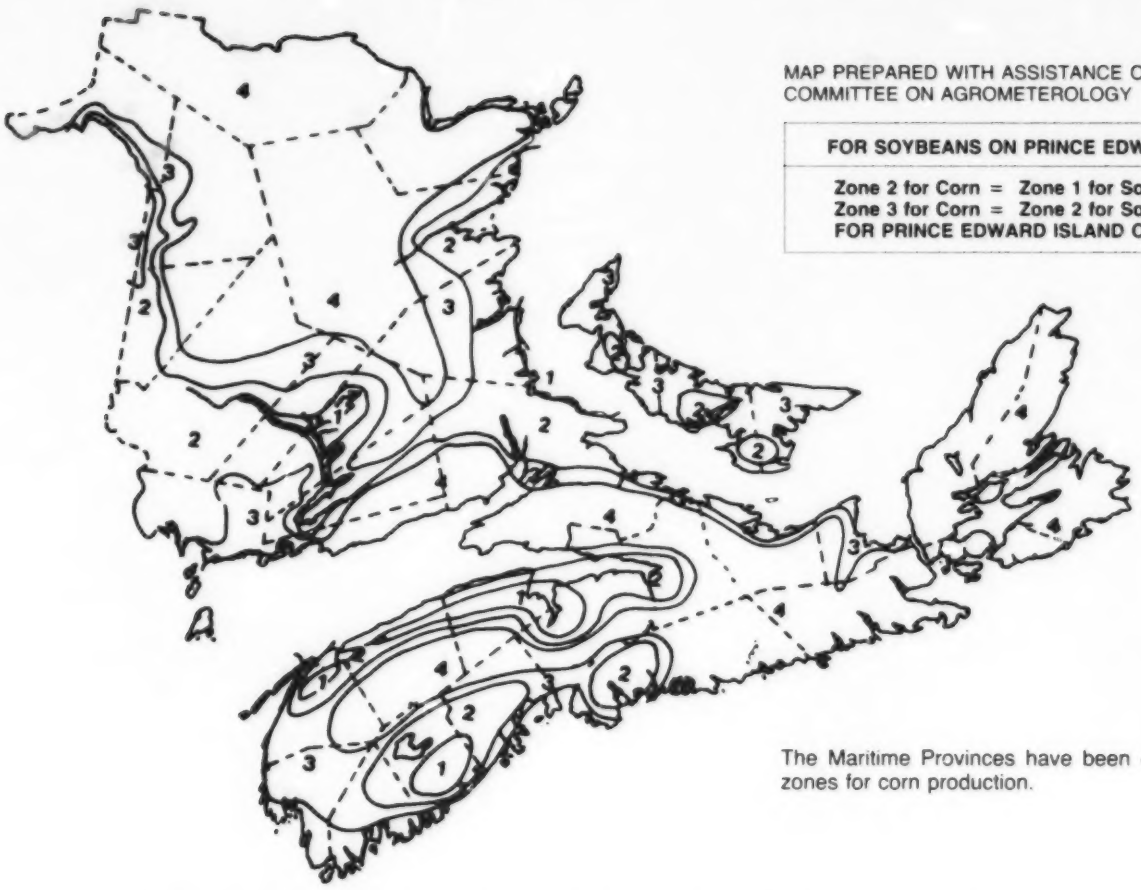
SILAGE PRODUCTION

Hybrids with an* are NEW recommendations this year.

Zone	Hybrid (Ident.)	Supplier[1]	Type of Hybrid[2]	Total Years X Sites Tested	Emergence[3] rate (%)	WHOLE PLANT[4] DM Content (%)	WHOLE PLANT[4] DM Yield (t/ha)
All Hybrids Suitable for Zone 1							
Zone 3	Pickseed 2444	8	MS	30	89	30.1	10.6
	Co-op 6312	3	3W	19	91	29.2	10.3
	DK-291 (Dekalb)	4	MS	19	91	29.1	10.4
	G-4017 (Funk)	2	3W	32	91	29.0	10.3
	K730 (Pride)	8	3W	34	90	28.9	9.3
Zone 2	3979 (Pioneer)	7	SC	28	92	28.6	10.0
	Bishop 30-30	1	SC	34	87	27.5	10.8
	3957 (Pioneer)	7	SC	36	89	27.2	10.8

1 Refer to table of suppliers for complete names and addresses.
2 SC = single cross; MS = modified single cross; 3W = 3 way cross.
3 Emergence rate was determined at 5 leaf stage, PRIOR TO THINNING to a constant stand in each plot. Data are averages of last 5 years only.
4 Data are averages for all Atlantic trials over at least 2 years, with up to 7 trial-locations per year. The table values (above) indicate a hybrid's performance when grown in **Zone 2**. To estimate a hybrid's performance in **Zone 1**, add 0.8 t/ha to the yield, and add 2.2% to the dry matter content. For Performance in **Zone 3**, use the yield figures for **Zone 2** as above, and subtract 3.1% from the dry matter content.

ZONES FOR CORN PRODUCTION



MAP PREPARED WITH ASSISTANCE OF THE ATLANTIC COMMITTEE ON AGROMETEROLOGY

FOR SOYBEANS ON PRINCE EDWARD ISLAND
Zone 2 for Corn = Zone 1 for Soybeans Zone 3 for Corn = Zone 2 for Soybeans FOR PRINCE EDWARD ISLAND ONLY

The Maritime Provinces have been divided into four zones for corn production.

ZONE 1: Greatest potential for corn production as either silage or grain exists in this zone. Planting hybrids with different maturity can spread out the harvest period.

ZONE 2: Early hybrids are required for good silage maturity. The **earliest grain hybrids** will produce acceptable high moisture ear corn and high moisture grain.

ZONE 3: Only the earliest hybrids will produce acceptable silage in this zone. High moisture ear corn or high moisture grain production is possible with the **very earliest hybrids** most years.

ZONE 4: Corn production is very risky and corn will usually freeze before becoming sufficiently mature for acceptable silage.

CANADIAN SEED CORN SUPPLIERS

HYBRID IDENT.	CANADIAN SUPPLIER	ADDRESS
BISHOP	1. Bishop Seeds Ltd.	Box 338, Belleville, Ontario K8N 3L1
FUNK	2. Funk Seeds, Ciba-Geigy Can. Ltd.	RR# 3 Cottam, Ontario N0R 1B0
CO-OP	3. Co-op Atlantic	P.O. Box 750, Moncton, N.B. E1C 8N5
DEKALB	4. Dekalb Canada Inc.	RR# 2, Glanworth, Ontario N0L 1L0
HYLAND	5. W.G. Thompson & Sons Ltd.	Box 130, Blenheim, Ontario N0P 1A0
PICKSEED	6. Pickseed Canada Inc.	Box 126, Richmond Hill, Ontario L4C 4X9
PIONEER	7. Pioneer Hi-Bred Ltd.	Box 730, Chatham, Ontario N7M 5L1
PRIDE	8. King Agro Inc.	Box 1088, Chatham, Ontario N7M 5L6

ZADOKS GROWTH SCALE FOR CEREALS

PRINCIPAL (0-9) AND SECONDARY (00-99) GROWTH STAGES FROM THE ZADOKS DECIMAL CODE

0 GERMINATION

- 00 Dry seed
- 01 Start of water absorption
- 02 —
- 03 Absorption complete
- 04 —
- 05 Root emerged from seed
- 06 —
- 07 Shoot emerged from seed
- 08 —
- 09 First leaf just visible

1 SEEDLING GROWTH

- 10 First leaf through coleoptile
- 11 First leaf unfolded
- 12 Two leaves unfolded
- 13 Three leaves unfolded
- 14 Four leaves unfolded
- 15 Five leaves unfolded
- 16 Six leaves unfolded
- 17 Seven leaves unfolded
- 18 Eight leaves unfolded
- 19 Nine or more leaves unfolded

2 TILLERING

- 20 Main shoot only
- 21 Main shoot and one tiller
- 22 Main shoot and two tillers
- 23 Main shoot and three tillers
- 24 Main shoot and four tillers
- 25 Main shoot and five tillers
- 26 Main shoot and six tillers
- 27 Main shoot and seven tillers
- 28 Main shoot and eight tillers
- 29 Main shoot and nine or more tillers

3 STEM ELONGATION

- 30 Main leaf sheath erect
- 31 First node detectable
- 32 Second node detectable
- 33 Third node detectable
- 34 Fourth node detectable
- 35 Fifth node detectable
- 36 Sixth node detectable
- 37 Flag leaf just visible
- 38 —
- 39 Flag leaf collar just visible

4 BOOTING

- 40 —
- 41 Flag leaf sheath extending
- 42 —
- 43 Boots just visibly swollen
- 44 —
- 45 Boots swollen
- 46 —
- 47 Flag leaf sheath opening
- 48 —
- 49 —

5 HEAD EMERGENCE

- 50 —
- 51 First spikelet of head just visible
- 52 —
- 53 1/4 of head emerged
- 54 —
- 55 1/2 of head emerged
- 56 —
- 57 3/4 of head emerged
- 58 —
- 59 Emergence of head completed

6 FLOWERING

- 60 —
- 61 Beginning of flowering
- 62 —
- 63 —
- 64 —
- 65 Flowering half way
- 66 —
- 67 —
- 68 —
- 69 Flowering complete

7 MILK DEVELOPMENT

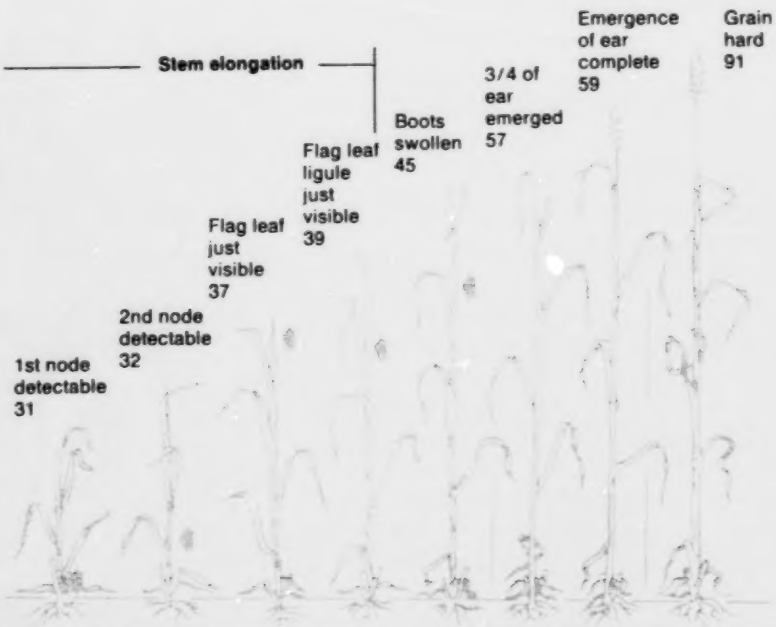
- 70 —
- 71 Kernel water ripe
- 72 —
- 73 Early milk
- 74 —
- 75 Medium milk
- 76 —
- 77 Late milk
- 78 —
- 79 —

8 DOUGH DEVELOPMENT

- 80 —
- 81 —
- 82 —
- 83 Early dough
- 84 —
- 85 Soft dough
- 86 —
- 87 Hard dough
- 88 —
- 89 —

9 RIPENING

- 90 —
- 91 Kernel hard; difficult to divide
- 92 Kernel hard; not dented by thumbnail
- 93 —
- 94 Overripe, straw dead and collapsing
- 95 Seed dormant
- 96 Seed giving 50% germination
- 97 Seed not dormant
- 98 —
- 99 Seed ready for planting


Stem elongation
1st node detectable 31
2nd node detectable 32
Flag leaf just visible 37
Flag leaf ligule just visible 39
Boots swollen 45
3/4 of ear emerged 57
Emergence of ear complete 59
Grain hard 91

Suggested changes for the 1992 edition of Publication 100A should be sent to the Field Crop or Plant Industry Branch Director for the province for forwarding to the appropriate field crop committees by April 1, 1991.